

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS**

SHANGHAI JINKO GREEN ENERGY
ENTERPRISE MANAGEMENT CO., LTD.
and ZHEJIANG JINKO SOLAR CO., LTD.,

Plaintiffs,

v.

WAAREE SOLAR AMERICAS INC. and
WAAREE ENERGIES LIMITED,

Defendants.

CASE NO. 4:25-cv-532

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs Shanghai Jinko Green Energy Enterprise Management Co., Ltd. (“Shanghai Jinko”) and Zhejiang Jinko Solar Co., Ltd. (“Zhejiang Jinko”) (collectively, “Jinko” or “Plaintiffs”) hereby assert the following claims for patent infringement against Defendants Waaree Solar Americas Inc. (“WAAREE America”) and Waaree Energies Limited (“WAAREE Energies”) (collectively, “Defendants” or “WAAREE”), and alleges as follows:

THE PARTIES

1. Shanghai Jinko is a foreign company organized and existing under the laws of China with its principal place of business at 5F, No. 277 Huqingping Road, Minhang District, Shanghai, China.

2. Zhejiang Jinko is a foreign company organized and existing under the laws of China with its principal place of business at 58 Yuan Xi Road, Yuan Hua Town, Haining, Zhejiang Province, China.

3. Upon information and belief, WAAREE America is a corporation organized and

existing under the laws of the State of Texas with its principal place of business at 2439 Discovery Hills Pkwy, Brookshire, TX 77423.

4. Upon information and belief, WAAREE Energies is a company organized and existing under the laws of India that does business in Texas and has its principal place of business at 602, 6th Floor, Western Edge – I, Western Express Highway, Borivali (East), Mumbai – 400 066, Maharashtra, India.

BACKGROUND OF THE PARTIES

5. Jinko is a globally leading photovoltaic (PV) module (“solar panel”) manufacturer and energy storage system integrator. Founded in 2006, Jinko is one of the pioneers in large-scale research and manufacturing of PV products in the world. From the beginning, Jinko has secured a strong global market position through strategic foresight, continuous R&D investment, independent innovation, outstanding product quality, and an extensive sales network. According to the industry research report prepared by China Insights Consultancy Limited (the “CIC Report”), Jinko was the world’s largest PV module manufacturer in 2023, with their module shipments accounting for 19.3% of the total annual shipment volume among the top 10 module suppliers. Jinko has been the champion in global annual module shipments five times.

6. Embracing the mission of “optimizing the energy portfolio and taking responsibility for enabling a sustainable future” (<https://www.jinkosolar.com/en/site/aboutus>), Jinko strategically positions itself in the core segments of the photovoltaic industry chain. It focuses on integrated research, development, and manufacturing of photovoltaic products, as well as providing comprehensive clean energy solutions.

7. Jinko prioritized the large-scale production of N-type products starting in 2019. Jinko holds the leading position for the N-type TOPCon segment with annual module shipments reaching 48.4 GW in 2023.

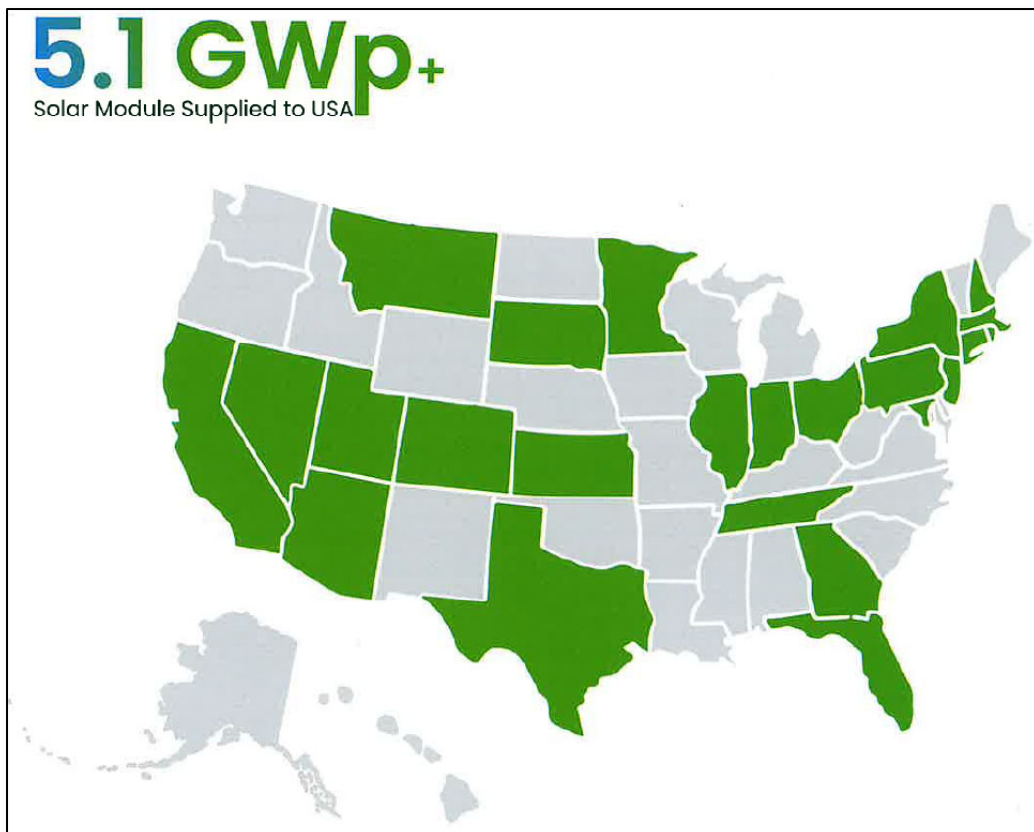
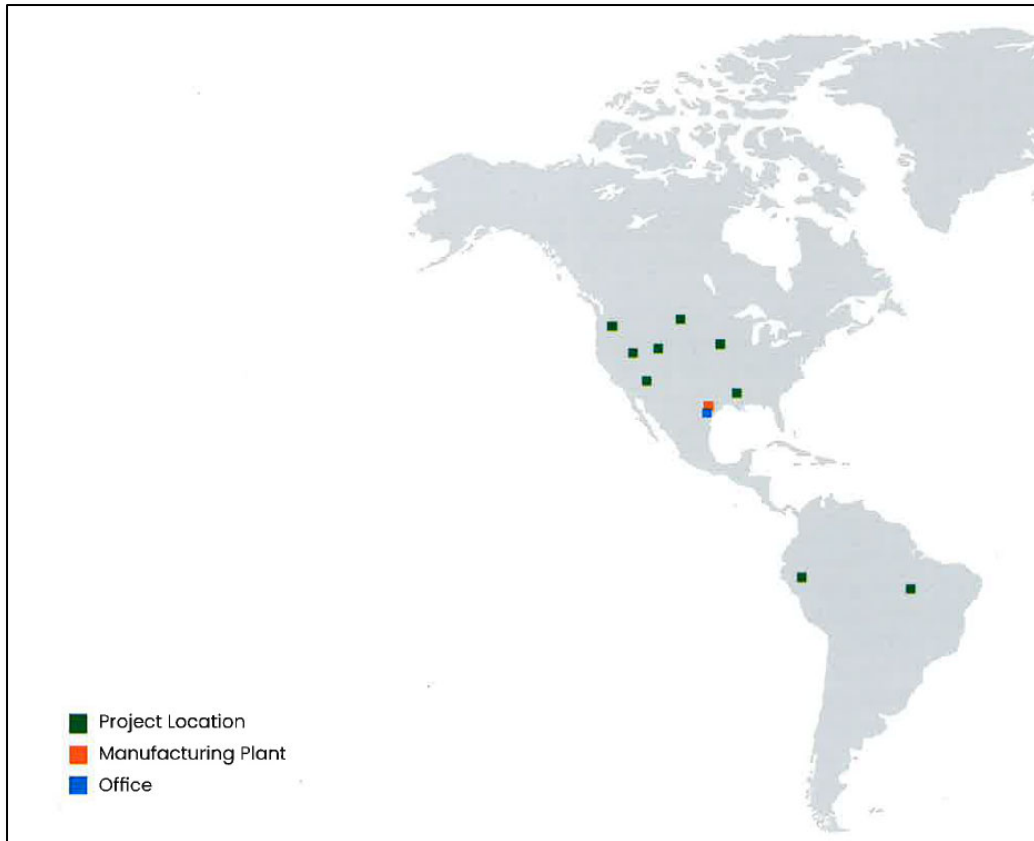
8. Jinko's innovation continues. As of the end of September 2024, Jinko had over 1,500 R&D staff. Through independent research and development, Jinko has applied for over 4,100 patents globally, with more than 2,800 patents granted. Jinko's proprietary portfolio includes over 460 industry-leading patents related to N-type TOPCon technology.

9. Jinko has earned numerous accolades for its work in the field. It also pioneered the "vertically integrated" production capacity from silicon wafer and cell to module production in the industry.

10. Upon information and belief, WAAREE supplies solar modules in the United States for use in residential and commercial buildings and solar utility projects. WAAREE products include its N Type TOPCON solar modules.

11. According to WAAREE's booth at the Re+24 conference held on September 11, 2024, in Anaheim, California, WAAREE has multiple projects in the United States where it has supplied solar modules. The booth showcased WAAREE America's manufacturing plant and office in Texas. Additionally, WAAREE highlighted its intention to expand its presence in the United States solar industry. WAAREE sells TOPCON solar panels in the United States, which are available for purchase. *See, e.g.*, Ex. 3.

12. Attached hereto as Ex. 4 is a set of photographs taken of WAAREE's booth at the Re+24 conference. Selected photographs of WAAREE's brochure from the Re+24 conference are replicated below. They display the various locations of WAAREE projects in the United States and where in the United States WAAREE has supplied its solar modules, including its TOPCON solar panels.



13. WAAREE competes directly against Jinko for customers of solar panels, including products that are designed for the same applications of Jinko products.

14. WAAREE's solar panels, including its TOPCON N-type solar panels, use Jinko's patented technology without authorization.

JURISDICTION AND VENUE

15. This action arises under the patent laws of the United States, 35 U.S.C. § 1 *et seq.* This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

16. This Court has specific and personal jurisdiction over Defendants. Defendants, acting in concert with each other and as principals and agents, and through intermediaries including subsidiaries, distributors, affiliates, retailers suppliers, integrators, and customers, conduct business and have committed acts of patent infringement and/or have induced acts of patent infringement by others in this judicial district, the State of Texas, and elsewhere in the United States, including by doing substantial, continuous, and systematic business in Texas and this district, such as the marketing, selling, and distributing of infringing solar panels. This Court further has general personal jurisdiction over WAAREE America because it is incorporated and has its principal place of business in this judicial district.

17. Venue is proper in this judicial district pursuant to at least 28 U.S.C. § 1391 (b) and (c) and 28 U.S.C. § 1400(b). WAAREE may be sued in this district because WAAREE has a regular and established place of business in this district, and because it commits acts of infringement (*i.e.*, sells and offers to sell accused products) in this district. Specifically, WAAREE America is incorporated and has a regular and established place of business at 2439 Discovery Hills Pkwy, Brookshire, TX 77423. Venue is proper to WAAREE Energies in this District pursuant to 28 U.S.C. § 1391 because WAAREE Energies is a foreign company not a resident in

the United States, and thus may be sued in any judicial district.

ASSERTED PATENT

18. Jinko is the current owner and assignee of 11,824,136 (the “’136 Patent” or the “Asserted Patent”).

19. The ’136 Patent (entitled “Solar cell, manufacturing method thereof, and photovoltaic module”) duly and legally issued on November 21, 2023. The ’136 Patent is valid and enforceable. The ’136 Patent is attached hereto as Exhibit 1.

20. Jinko exclusively owns all rights, title, and interest in the Asserted Patent, including the right to bring this action to recover past and future damages for WAAREE’s infringement of the Asserted Patent.

21. Defendants are not and have never been licensed to practice Jinko’s Asserted Patent.

22. The Asserted Patent is valid and enforceable.

**DEFENDANTS’ INFRINGEMENT OF AND KNOWLEDGE OF
THE ASSERTED PATENT**

23. On information and belief, WAAREE makes, uses, sells, offers to sell, and/or imports infringing solar panels (the “Accused Solar Panels”) in the United States. The Accused Solar Panels include, but are not limited to, WAAREE’s TOPCON N-type solar module series, *e.g.*, BiN-03-680, BiN-03-685, BiN-03-690, BiN-03-695, BiN-03-700, BiN-03-705, BiN-03-710, BiN-03-715, BiN-02-615, BiN-02-620, BiN-02-625, BiN-02-630, BiN-02-635, BiN-02-640, BiN-02-645, BiN-02-650, BiN-17-615, BiN-17-620, BiN-17-625, BiN-17-630, BiN-17-635, BiN-17-640, BiN-17-645, BiN-08-565, BiN-08-570, BiN-08-575, BiN-08-580, BiN-08-585, BiN-08-590, BiN-08-595, BiN-08-600, BiN-07-515, BiN-07-520, BiN-07-525, BiN-07-530, BiN-07-535, BiN-07-540, BiN-07-545, BiN-06-465, BiN-06-470, BiN-06-475, BiN-06-480, BiN-06-485, BiN-06-

490, BiN-06-495, BiN-05-415, BiN-05-420, BiN-05-425, BiN-05-430, BiN-05-435, BiN-05-440, BiN-05-445, WFLW-520, and all substantially similar equivalents thereof.

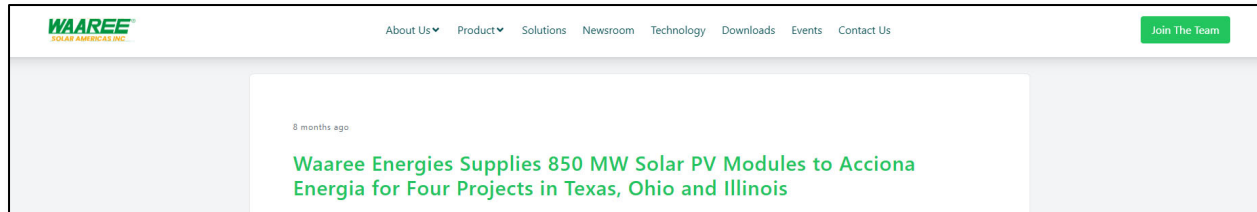
24. The Accused Solar Panels are displayed on WAAREE's website, including at <https://waaree.com/usa/topCon>. Product specifications for the Accused Solar Panels are attached as Ex. 5 – 12 and can be downloaded at the following:

- For the BiN-03 series: <https://waaree.com/wp-content/uploads/2024/02/ELITE-SERIES-BiN-03-680-715-WEL-EPD-680-715-132-BiN-HC-06-31.08.2024-2.pdf>
- For the BiN-02 series: <https://waaree.com/wp-content/uploads/2024/02/ELITE-SERIES-BiN-02-615-650-WEL-EPD-615-650-120-BiN-HC-07-31.08.2024-1.pdf>
- For the BiN-17 series: https://waaree.com/wp-content/uploads/2024/02/ELITE-SERIES-BiN-17-615-645-WEL-EPD-615-645-156-BiN-HC-04-27.05.2024_35mm.pdf
- For the BiN-08 series: https://waaree.com/wp-content/uploads/2024/02/ELITE-SERIES-BiN-08-565-600-WEL-EPD-565-600-144-BiN-HC-08-20.06.2024_33mm.pdf
- For the BiN-07 series: https://waaree.com/wp-content/uploads/2024/02/ELITE-SERIES-BiN-07-515-545-WEL-EPD-515-545-132-BiN-HC-04-30.05.2024_33mm-1.pdf
- For the BiN-06 series: https://waaree.com/wp-content/uploads/2024/02/ELITE-SERIES-BiN-06-465-495-WEL-EPD-465-495-120-BiN-HC-03-30.05.2024_33mm-1.pdf
- For the BiN-05 series: https://waaree.com/wp-content/uploads/2024/02/ELITE-SERIES-BiN-05-415-445-WEL-EPD-415-445-108-BiN-HC-04-30.05.2024_33mm-1.pdf
- For the WFLW-520 series: <https://waaree.com/wp-content/uploads/2024/05/WFLW-520-16-8.pdf>

25. WAAREE has announced a three-year contract with Acciona Energia (“Acciona”) through its press releases. This contract involves WAAREE supplying of 1.5 GW of N Type TOPCON modules for Acciona's United States based projects in Wharton County, Texas, Fort Bend, Texas, and High Point, Illinois. Acciona is a Spain-based renewable energy company that operates solar, wind power, and industrial-scale energy storage projects in the United States. *See* Ex. 13¹ and Ex. 14.²

¹ Available at <https://waaree.com/usa/news1>.

² Available at <https://www.pv-tech.org/acciona-energia-commissions-458mw-red-tailed-hawk->



Waaree delivered the modules four weeks ahead of schedule, enabling Acciona to meet its project commercial operation date timelines. In line with Waaree's commitment toward ensuring the appropriate standards of product quality and performance, the solar modules supplied for the projects have undergone internal and third-party quality testing. Under the terms of the three-year supply agreement, Waaree Energies will supply Acciona with an additional 1.5 GW of its **N Type TOPCON modules** for Acciona's projects in the United States from 2024 to 2026. A total of 2.34 GW of order is to be delivered, out of which Waaree Energies has already delivered 850 MW.

26. WAAREE also touts its major presence in the U.S. solar market through its press releases. By December 2023, WAAREE Energies had already supplied over 4 GW of modules from its Indian facility to customers in the United States. *See* Ex. 15.³



- *Waaree signs three-year deal with Acciona to supply an additional 1.5 GW solar modules for US installations through 2026*
- **Waaree has now supplied more than 4 GW of solar modules to the US in 2023**

HOUSTON, Texas/MUMBAI, 22nd December 2023 - Waaree Energies ("Waaree"), India's largest solar PV module manufacturer and **major supplier to the U.S.**, announced today it will establish its first U.S. manufacturing facility in the Houston areas. The facility, located in the town of Brookshire, will have the initial capacity to manufacture 3 gigawatts (GW) of solar modules annually by the end of 2024. Waaree plans to invest up to \$ 1 billion over the next four years to scale its annual module manufacturing production up to 5 GW by 2027, making it one of the largest solar module manufacturing facilities in the U.S. Waaree will also add an integrated U.S.-made solar cell facility that is expected to be operational by 2025. In total, Waaree's new facility is expected to create over 1,500 total jobs in the US when at full capacity.

Waaree already has a major presence in the U.S. solar market. Till date Waaree has supplied over 4 GW of modules from its current Indian facility to U.S. customers. Waaree's ambitious U.S. expansion benefits from the long-term supply agreement with SB Energy, a

27. According to WAAREE, it provides continued support to its customers—presumably including its United States customers—by offering a twelve-year product warranty, which is further backed by a 30-year warranty for power output for at least its BiN-03, BiN-02,

[solar-texas/](#).

³ Available at <https://waaree.com/usa/news2>.

BiN-17, and BiN-08 infringing solar panels. *See* the product specifications for the Accused Solar Panels, Ex. 5 – 12. The product specification for BiN-03 is shown below as one example.

DESIGN SPECIFICATIONS

The diagram shows a rectangular solar module with a grid pattern representing the solar cells. Key dimensions are indicated:

- Overall Length:** 1265.00 ± 1.00 mm
- Overall Width:** 1400.00 ± 1.00 mm
- Terminal Spacing:** 760.00 ± 1.00 mm between the two main vertical terminal columns.
- Terminal Labels:** The left column is labeled '+VE TERMINAL' and the right column is labeled '-VE TERMINAL'. Both are also labeled 'Main Bus Grounding Hole'.
- Mounting Holes:** There are four mounting holes along each long edge, labeled 'Mounting Hole'.
- Distance from Edge to Mounting Hole:** Indicated as 40.00 ± 1.00 mm on both sides.

Waaree Energies Ltd. is amongst the top Solar Energy Companies and has the country's largest Solar PV Module manufacturing capacity of 12 GW. In addition, it is committed to provide top notch EPC services, project development, rooftop solutions, solar water pumps and also in an Independent Power Producer. Waaree has its presence in over 350+ locations nationally and 68 countries globally.

12 Years Product Warranty • 30 Years Power Output Warranty

- The electrical data given here is for reference purpose only.
- Please confirm your exact requirements with the sales representative while placing your order.
- Refer installation Manual instructions & Waaree warranty statement for terms & conditions.
- Waaree Reserves the right to change the specifications without prior notice.

THERMAL CHARACTERISTICS

Temperature coefficient of Current (I_{sc}), α (%/ $^{\circ}C$)	0.046
Temperature coefficient of Voltage (V_{oc}), β (%/ $^{\circ}C$)	-0.26
Temperature coefficient of Power (P_m), γ (%/ $^{\circ}C$)	-0.30
NOCT ($^{\circ}C$)	43 \pm 2
Operating temperature range ($^{\circ}C$)	-40 to 85
Bifaciality	80 \pm 10%

MECHANICAL CHARACTERISTICS

Length x Width x Thickness (L x W x T)	2384 mm (L) x 1303 mm (W) x 35 mm (T)
Weight	39 kgs
Solar Cells per Module (Units) / Arrangement	132 cells / (11x6 11x6)
Solar Cell Type & Size	G12 N-type TOPCon Bifacial
Front Glass (Material / Thickness)	2 mm Low Iron HTAR semi-tempered glass
Back Glass (Material / Thickness)	2 mm Low Iron Printed semi-tempered glass
Encapsulate	PID Free & UV Resistant
Junction Box (Protection degree / Material)	IP68 / Weatherproof PPO
Cable & Connector (Protection degree / Type)	IP68 rated / MC4 compatible
Cable cross - section & Length	4 mm ² & 500mm
Frame	Anodized Aluminium Alloy

www.waaree.com

WE/E&PD/680-715/132/BIN-03/HQ/06/31.08.2024

28. Upon information and belief, WAAREE has had knowledge of the Asserted Patent since their issuance because, as an active competitor to Jinko, WAAREE would have periodically investigated Jinko's patent portfolio, and its applicability to WAAREE's products.

29. Defendants have knowledge of the Asserted Patent at least as of the filing of this complaint.

COUNT 1

(Infringement of U.S. Patent No. 11,824,136)

30. Defendants have directly infringed and continue to infringe, literally and under the doctrine of equivalents, one or more claims of the '136 Patent by making, using, offering to sell,

selling, and/or importing into the United States infringing devices without authority in violation of 35 U.S.C. § 271(a).

31. A claim chart illustrating WAAREE's infringement of claim 1 of the '136 Patent is attached as Exhibit 2 and incorporated by reference as if fully set forth herein. As alleged herein and in Exhibit 2, Defendants' products, including the exemplary product analyzed in Exhibit 2, meet each and every one of the claim limitations of at least claim 1 of the '136 Patent. Claim 1 recites:

1. A solar cell, comprising:

a semiconductor substrate, wherein a rear surface of the semiconductor substrate has a first texture structure, the first texture structure has a non-pyramid-shaped microstructure and includes two or more first substructures at least partially stacked on one another, a top surface of the first substructure is a polygonal plane, and a one-dimensional size of the top surface of the outermost first substructure is less than or equal to 45 μm ; and wherein a front surface of the semiconductor substrate has a second texture structure, the second texture structure includes a pyramid-shaped microstructure, the pyramid-shaped microstructure includes a top portion away from the front surface of the semiconductor substrate and a bottom portion close to the front surface of the semiconductor substrate, and in a direction away from the front surface and perpendicular to the front surface, a distance between the top portion and the bottom portion of the pyramid-shaped microstructure is less than or equal to 5 μm ;

a first passivation layer located on the second texture structure of the front surface of the semiconductor substrate;

a tunnel oxide layer located on the first texture structure of the rear surface of the semiconductor substrate;

a doped conductive layer located on a surface of the tunnel oxide layer; and

a second passivation layer located on a surface of the doped conductive layer.

32. Defendants also indirectly infringe one or more claims of the '136 Patent, pursuant to 35 U.S.C. § 271(c), by contributing to or direct infringement committed by others, such as customers and end-users, in this District and elsewhere in the United States at least by making,

using, offering to sell, importing, and/or selling at least the Accused Solar Panels.

33. Defendants have actively induced infringement of the '136 Patent without authority in violation of 35 U.S.C. § 271(b). Defendants continue to induce infringement of the '136 Patent without authority in violation of 35 U.S.C. § 271(b). Specifically, Defendants understand, intend, and encourage their products such as the Accused Solar Panels, to be imported, offered for sale, sold or used in the United States, knowing they infringe at least one claim of the '136 Patent.

34. The Accused Solar Panels are a material part of the invention of the '136 Patent, are not staple articles or commodity of commerce, have no substantial non-infringing use, and are known by Defendants to be especially made or adapted for use in the infringement of the '136 patent.

35. Defendants' infringement of the '136 Patent has been and continues to be willful.

36. Defendants' infringement of the '136 Patent has damaged and continues to damage Jinko in an amount yet to be determined, of at least a reasonable royalty.

DAMAGES

37. As a result of WAAREE's acts of infringement, Jinko has suffered and continues to suffer actual and consequential damages. However, Jinko does not yet know the full extent of the infringement and the amount of damages cannot be ascertained except through discovery and special accounting. To the fullest extent permitted by law, Jinko seeks recovery of damages at least for reasonable royalties, lost profits, unjust enrichment, and benefits received by Defendants as a result of using the patented technology. Jinko further seeks any other damages to which Jinko is entitled under law or in equity, including enhanced damages for Defendants' willful infringement.

38. To remedy any ongoing and/or future harm to Jinko caused by Defendants' infringement, Jinko seeks a preliminary and permanent injunction preventing any further

infringement.

PRAYER FOR RELIEF

Plaintiffs pray for the following relief:

A. A judgment that Defendants have infringed one or more claims of the Asserted Patent;

B. A preliminary and permanent injunction enjoining Defendants and their officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in active concert or participation with Defendants, from infringing the Asserted Patent;

C. An award of damages resulting from Defendants' acts of infringement in accordance with 35 U.S.C. § 284;

D. A judgment and order finding that Defendants' acts of infringement were egregious and willful and trebling damages under 35 U.S.C. § 284;

E. A judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding to Jinko reasonable attorneys' fees against Defendants;

F. A judgment and order requiring Defendants to provide accountings and to pay supplemental damages to Jinko, including, without limitation, prejudgment and post-judgment interest; and

G. Any and all other relief as the Court may deem just and proper.

JURY TRIAL DEMAND

Jinko hereby demands a trial by jury of all issues so triable.

Dated: February 7, 2025

PERKINS COIE LLP

By: /s/ Miguel Bombach

Yun Louise Lu, CA Bar No. 253114

(*Pro Hac Vice* Pending)

LLu@perkinscoie.com

Miguel J. Bombach, CA Bar No. 274287

MBombach@perkinscoie.com

Abigail A. Gardner, CA Bar No. 334598

(*Pro Hac Vice* Pending)

AGardner@perkinscoie.com

Ray Wu, CA Bar No. 358429

(*Pro Hac Vice* Pending)

RayWu@perkinscoie.com

Sarah M. Anderson, CA Bar Co. 359690

(*Pro Hac Vice* Pending)

SarahAnderson@perkinscoie.com

PERKINS COIE LLP

11452 El Camino Real, Ste 300

San Diego, California 92130-2080

Telephone: +1.858.720.5700

Facsimile: +1.858.720.5799